

Title (en)  
METHODS OF ELECTROCHEMICAL DEPOSITION

Title (de)  
VERFAHREN ZUR ELEKTROCHEMISCHEN ABSCHIEDUNG

Title (fr)  
PROCÉDÉ DE DÉPÔT ÉLECTROCHIMIQUE

Publication  
**EP 3491177 A4 20200812 (EN)**

Application  
**EP 17833162 A 20170728**

Priority  
• US 201662368292 P 20160729  
• CA 2017050914 W 20170728

Abstract (en)  
[origin: WO2018018161A1] A method of electrochemical deposition of a metallic material onto a substrate is provided. The method includes providing an alkaline solution of hydroxide ions, immersing a metallic material precursor and the substrate into the alkaline solution to form an electrochemical bath, and electrochemically depositing a textured layer of the metallic material onto the substrate. A method of electrochemical deposition of a textured nanoparticle is provided. The method includes providing an alkaline solution of hydroxide ions, immersing the metallic material into the alkaline solution to form an electrochemical bath, and precipitating the textured nanoparticles from the electrochemical bath. A method of electrochemical deposition of a metallic material onto a nanoparticle is provided. The method includes providing an alkaline solution of hydroxide ions, immersing the metallic material and the nanoparticle into the alkaline solution to form an electrochemical bath, and depositing a textured layer of the metallic material onto the nanoparticle.

IPC 8 full level  
**C25D 3/02** (2006.01); **C25D 1/00** (2006.01); **C25D 5/00** (2006.01)

CPC (source: EP US)  
**C23C 18/08** (2013.01 - EP US); **C23C 18/143** (2019.04 - EP US); **C23C 18/31** (2013.01 - EP US); **C23C 18/42** (2013.01 - EP US);  
**C23C 18/54** (2013.01 - EP US); **C25D 3/02** (2013.01 - EP US); **C25D 3/56** (2013.01 - US)

Citation (search report)  
• [X] US 2014162067 A1 20140612 - SHAHJAMALI MOHAMMAD MEHDI [SG], et al  
• [XI] JIAN LI: "On the Texture of Electroless Copper Films on Epitaxial Cu Seed Layers Grown on Si (100) and Si (111) Substrates", JOURNAL OF THE ELECTROCHEMICAL SOCIETY, VOL. 139, NO.4, 1 April 1992 (1992-04-01), pages L37 - L39, XP055679930, Retrieved from the Internet <URL:https://iopscience.iop.org/article/10.1149/1.2069383/pdf> [retrieved on 20200326]  
• [X] OLIVIER S ET AL: "Inhomogeneous nucleation and growth of palladium and alloyed cobalt during self-aligned capping of advanced copper interconnects", THIN SOLID FILMS, ELSEVIER, AMSTERDAM, NL, vol. 518, no. 17, 30 June 2010 (2010-06-30), pages 4773 - 4778, XP027065069, ISSN: 0040-6090, [retrieved on 20100129], DOI: 10.1016/J.TSF.2010.01.025  
• [X] GANGAIAH METTELA ET AL: "Site selective Cu deposition on Au microcrystallites: corners, edges versus planar surfaces", CRYSTENGCOMM, vol. 17, no. 48, 1 January 2015 (2015-01-01), pages 9459 - 9465, XP055679848, DOI: 10.1039/C5CE01574J  
• [X] R. SARD: "Influence of Substrate Structure on Electroless Gold Deposition", JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol. 123, no. 11, 1 January 1976 (1976-01-01), US, pages 1604, XP055679911, ISSN: 0013-4651, DOI: 10.1149/1.2132655  
• See references of WO 2018018161A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

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**WO 2018018161 A1 20180201**; CA 3032224 A1 20180201; EP 3491177 A1 20190605; EP 3491177 A4 20200812; US 2019256995 A1 20190822

DOCDB simple family (application)  
**CA 2017050914 W 20170728**; CA 3032224 A 20170728; EP 17833162 A 20170728; US 201916260091 A 20190128